IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Canceled).

Claim 2 (Currently Amended): A video encoding apparatus comprising:

a feature amount computation unit configured to divide an input video signal into a plurality of scenes each comprising at least one temporally-continuous frame, and compute a statistical feature amount for each scene;

an encoding parameter generator to generate an encoding parameter for each scene based on the statistical feature amount computed by the feature amount computation unit;

a number-of-generated-bits prediction unit configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by the encoding parameter generator;

an encoding parameter correcting unit configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by the number-of-generated-bits prediction unit;

an encoder to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream; and

an output unit configured to output the encoded bit stream generated by the encoder as an encoded output, wherein the encoding parameter generator includes a setting unit configured to correct a frame rate ~~and~~ as well as a quantization step by setting a weighted parameter to the frame rate as well as setting a weighted parameter to the quantization step size for macro blocks of frames to be encoded for each scene on the bases of the statistical feature amount relating to a distribution of luminance for each macro block.

Claim 3 (Currently Amended): A video encoding apparatus comprising:

a feature amount computation unit configured to divide an input video signal into a plurality of scenes each comprising at least one temporally-continuous frame, and compute a statistical feature amount for each scene;

an encoding parameter generator to generate an encoding parameter for each scene based on the statistical feature amount computed by the feature amount computation unit;

a number-of-generated-bits prediction unit configured to predict the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by the encoding parameter generator;

an encoding parameter correcting unit configured to correct the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by the number-of-generated-bits prediction unit;

an encoder to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream; and

an output unit configured to output the encoded bit stream generated by the encoder as an encoded output, wherein the feature amount computation unit includes a classification unit configured to classify the plurality of scenes into a plurality of scene types, based on the statistical feature amount relating to a motion vector, and the encoding parameter generator includes a setting unit configured to correct a frame rate ~~and~~ as well as a quantization step by setting weight parameters to the frame rate and the quantization step size, respectively, for each scene according to the scene types.

Claim 4 (Previously Presented): The video encoding apparatus according to claim 3, wherein the setting unit is configured to set the weight parameters to the frame rate and the quantization step size for macro blocks of frames to be encoded for each scene on the bases of the statistical feature amount relating to a distribution of luminance for each macro block.

Claims 5-15 (Canceled).

Claim 16 (Currently Amended): A video encoding method comprising:

dividing an input video signal into a plurality of scenes each comprising at least one temporally-continuous frame;

computing a statistical feature amount for each scene;

generating an encoding parameter for each scene based on the statistical feature amount computed by the feature amount computing step;

predicting the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by the encoding parameter generating step;

correcting the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by the number-of-generated-bits predicting step; and

encoding the input video signal using the corrected encoding parameter to generate an encoded bit stream,

wherein the encoding parameter generating step includes correcting a frame rate ~~and~~ as well as a quantization step size by setting weight parameters to the frame rate and the quantization step size, respectively, for macro blocks of frames to be encoded for each scene on the bases of the statistical feature amount relating to a distribution of luminance for each macro block.

Claim 17 (Currently Amended): A video encoding method comprising:

dividing an input video signal into a plurality of scenes each comprising at least one temporally-continuous frame;

computing a statistical feature amount for each scene;

generating an encoding parameter for each scene based on the statistical feature amount computed by the feature amount computing step;

predicting the number of bits to be generated when the input video signal is encoded using the encoding parameter generated by the encoding parameter generating step;

correcting the encoding parameter based on a result of the prediction of the number of generated bits which is obtained by the number-of-generated-bits predicting step; and

encoding the input video signal using the corrected encoding parameter to generate an encoded bit stream, wherein the feature amount computing step includes classifying the

plurality of scenes into a plurality of scene types, based on the statistical feature amount relating to a motion vector, and the encoding parameter generating step includes correcting a frame rate ~~and~~ as well as a quantization step size by setting weight parameters to the frame rate and the quantization step size, respectively, for each scene according to the scene types.

Claim 18 (Previously Presented): The method according to claim 17, wherein the encoding parameter generating step includes setting the weight parameters to the frame rate and the quantization step size, respectively, for macro blocks of frames to be encoded for each scene on the bases of the statistical feature amount relating to a distribution of luminance for each macro block.

Claim 19 (Currently Amended): A recording medium having a computer program recorded therein for encoding an input video signal, the computer program comprising:

instruction means for instructing the computer to divide an input video signal into a plurality of scenes each comprising at least one temporally-continuous frame and compute a statistical feature amount for each scene;

instruction means for instructing the computer to generate an encoding parameter for each scene based on the statistical feature amount;

instruction means for instructing the computer to predict the number of bits generated when the input video signal is encoded using the encoding parameter;

instruction means for instructing the computer to correct the encoding parameter based on a result of the prediction of the number of generated bits; and

instruction means for instructing the computer to encode the input video signal using the corrected encoding parameter and generate an encoded bit stream,

wherein the means for instructing the computer to generate the encoding parameter includes means for instructing the computer to correct a frame rate ~~and~~ as well as a quantization step size by setting weight parameters to the frame rate and the quantization step size, respectively, for macro blocks of frames to be encoded for each scene on the bases of the statistical feature amount relating to a distribution of luminance for each macro block.

Claim 20 (New): The apparatus according to claim 2, wherein the setting unit includes a computing unit configured to compute the frame rate and the quantization step from a sum of a value determined by a bit rate, a video size and a representative value for each scene and a value determined by a motion vector of an object in the scene.

Claim 21 (New): The apparatus according to claim 2, wherein the setting unit includes a computing unit configured to compute the frame rate and the quantization step by a following equation:

$FR(j) = a * MVnum\_j + b + W\_FR$

where FR(j) represents the frame rate, MVnum_j denotes a representative value for a j-th scene, a and b denote coefficients for a bit rate and a video size specified by a user, and W_FR denotes a weight parameter, and

$QP(j) = c * MVnum\_j + d + W\_QP$

where QP(j) represents the frame rate, c and d denote coefficients for a bit rate and a video size specified by a user, and W_QP denotes a weight parameter.

Claim 22 (New): The apparatus according to claim 2, wherein the setting unit includes a reset unit configured to reset the bit rate exceeding an upper limit value or a lower limit value.

Claim 23 (New): The apparatus according to claim 3, wherein the setting unit includes a computing unit configured to compute the frame rate and the quantization step from a sum of a value determined by a bit rate, a video size and a representative value for each scene and a value determined by a motion vector of an object in the scene.

Claim 24 (New): The apparatus according to claim 3, wherein correcting the frame rate as well as the quantization step includes computing the frame rate and the quantization step by an equation as follows:

FR(j) = a * MVnum_j + b + W_FR

where FR(j) represents the frame rate, MVnum_j denotes a representative value for a j-th scene, a and b denote coefficients for a bit rate and a video size specified by a user, and W_FR denotes a weight parameter, and

QP(j) = c * MVnum_j + d + W_QP

where QP(j) represents the frame rate, c and d denote coefficients for a bit rate and a video size specified by a user, and W_QP denotes a weight parameter.

Claim 25 (New): The method according to claim 3, wherein the setting unit includes a reset unit configured to reset the bit rate exceeding an upper limit value or a lower limit value.

Claim 26 (New): The method according to claim 17, wherein correcting the frame rate as well as the quantization step includes computing the frame rate and the quantization step from a sum of a value determined by a bit rate, a video size and a representative value for each scene and a value determined by a motion vector of an object in the scene.

Claim 27 (New): The method according to claim 17, wherein correcting the frame rate as well as the quantization step includes computing the frame rate and the quantization step by an equation as follows:

FR(j) = a * MVnum_j + b + W_FR

where FR(j) represents the frame rate, MVnum_j denotes a representative value for a j-th scene, a and b denote coefficients for a bit rate and a video size specified by a user, and W_FR denotes a weight parameter, and

QP(j) = c * MVnum_j + d + W_QP

where QP(j) represents the frame rate, c and d denote coefficients for a bit rate and a video size specified by a user, and W_QP denotes a weight parameter.

Claim 28 (New): The method according to claim 17, wherein correcting the frame rate as well as the quantization step includes resetting the bit rate exceeding an upper limit value or a lower limit value.

Claim 29 (New): The recording medium according to claim 19, wherein the means for instructing the computer to correct the frame rate as well as the quantization step size includes means for instructing the computer to compute the frame rate and the quantization step from a sum of a value determined by a bit rate, a video size and a representative value for each scene and a value determined by a motion vector of an object in the scene.

Claim 30 (New): The recording medium according to claim 19, wherein the means for instructing the computer to correct the frame rate as well as the quantization step size includes means for instructing the computer to compute the frame rate and the quantization step by an equation as follows:

$FR(j) = a * MVnum\_j + b + W\_FR$

where FR(j) represents the frame rate, MVnum_j denotes a representative value for a j-th scene, a and b denote coefficients for a bit rate and a video size specified by a user, and W_FR denotes a weight parameter, and

$QP(j) = c * MVnum\_j + d + W\_QP$

where QP(j) represents the frame rate, c and d denote coefficients for a bit rate and a video size specified by a user, and W_QP denotes a weight parameter.

Claim 31 (New): The apparatus according to claim 19, wherein the means for instructing the computer to correct the frame rate as well as the quantization step size includes means for the computer to reset the bit rate exceeding an upper limit value or a lower limit value.